



Docket No.: 13111-00002-US
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Burkhard Kröger et al.

Application No.: 10/525674

Confirmation No.: 3744

Filed: February 24, 2005

Art Unit: 1645

For: METHOD FOR ZYMOTIC PRODUCTION
OF FINE CHEMICALS CONTAINING
SULPHUR (META)

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Amendment
Commissioner for Patents
P.O. Box 1450
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Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Please note that the co-pending U.S. national stage applications referred to in the previously submitted Information Disclosure Statement have now received U.S. application serial numbers. Previously submitted PCT published application WO-2004/024931 corresponds to U.S. national stage application Serial No. 10/525,907 and PCT published application WO-2004/024933 corresponds to U.S. national stage application Serial No. 10/525,710.

Further note that PCT published application WO-2003/087386 enclosed herewith corresponds to U.S. national stage application Serial No. 10/511,302.

Of the documents listed on the attached SB/08 are the documents cited in the International Search Report during the prosecution of international application no. PCT/EP2003/009452, which corresponds to the above referenced application and which had not been previously submitted. In accordance with 37 CFR 1.97(b)(3), Applicants hereby submit these documents for the Examiner's consideration. A copy of each document required under 37 CFR 1.98(a)(2) is enclosed.

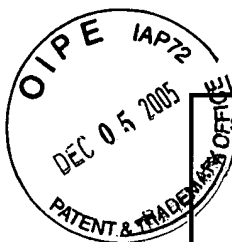
In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such. Moreover, Applicants understand the Examiner will make an independent evaluation of the cited documents.

Applicants believe no fee is due. However, if a fee is due, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 03-2775, under Order No. 13111-00002-US, from which the undersigned is authorized to draw.

Respectfully submitted,

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PTO/SB/08a/b (07-05)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Application Number	10/525,674-Conf. #3744
				Filing Date	February 24, 2005
				First Named Inventor	Burkhard Kröger
				Art Unit	1645
				Examiner Name	Not Yet Assigned
Sheet	1	of	4	Attorney Docket Number	13111-00002-US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AA*	US-2003/0170775-A1	09-11-2003	Pompejus, et al.	
	AB*	US-4,601,893	07-22-1986	Cardinal	
	AC*	US-5,175,108	12-29-1992	Bachmann et al.	
	AD*	US-4,489,160	12-18-1984	Katsumata et al.	
	AE*	US-5,158,891	10-27-1992	Takeda et al.	
	AF*	US-5,965,391	10-12-1999	Reinscheid et al.	
	AG*	US 10/511,302		Kröger et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	BA	EP-1108790-A2	06-20-2001	Kyowa Hakko Kogyo Co., Ltd.		
	BB	WO-03/100072-A2	12-04-2003	BASF Aktiengesellschaft		
	BC	WO-2003/087386-A3	10-23-2003	BASF Aktiengesellschaft		See US 10/511,302
	BD	WO-96/15246-A1	05-23-1996	Forschungszentrum Jülich GMBH		See US 5,965,391.
	BE	JP-10-229891-A	09-02-1998	Mitsubishi Rayon Co., Ltd.		See Abstract.
	BF	EP-0472869-A2	03-04-1992	Degussa AG		See US 5,175,108.
	BG	DE-10046870-A1	03-28-2002	BASF Aktiengesellschaft		See US-2003/0170775-A1.

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
	CA	PATEK, M., ET AL., "Leucine Synthesis in <i>Corynebacterium glutamicum</i> : Enzyme Activities, Structure of <i>leuA</i> , and Effect of <i>leuA</i> Inactivation on Lysine Synthesis", Applied and Environmental Microbiology, Vol. 60, No. 1, 1994, pp. 133-140.			
	CB	BOLIVAR, F., "Molecular Cloning Vectors Derived From The CoLE1 Type Plasmid pMB1", Life Sciences, Vol. 25, 1979, pp. 807-818.			
	CC	VIEIRA, J., ET AL., "The pUC plasmids, an M13mp7-derived system for insertion mutagenesis and sequencing with synthetic universal primers", Gene, Vol. 19, 1982, pp. 259-268.			
	CD	MALAKHOVA, I. I., ET AL., "Thin-Layer Chromatography of Free Amino Acids. Selection of Conditions for the Separation of L-Lysine, L-Homoserine, and L-Threonine", Biotekhnologiya,			

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			Filing Date	February 24, 2005	
			First Named Inventor	Burkhard Kröger	
			Art Unit	1645	
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Sheet	2	of	4	Attorney Docket Number	13111-00002-US

		Vol. 11, 1996, pp. 27-32.	
CE	SANGER, F., ET AL., "DNA sequencing with chain-terminating inhibitors", Proc. Natl. Acad. Sci. USA, Vol. 74, No. 12, 1977, pp. 5463-5467.		
CF	DUNICAN, L. K., ET AL., "High Frequency Transformation of Whole Cells of Amino Acid Producing Coryneform Bacteria Using High Voltage Electroporation", Biotechnology, Vol. 7, 1989, pp. 1067-1070.		
CG	SIMON, R., ET AL., "A Broad Host Range Mobilization System for <i>In Vivo</i> Genetic Engineering: Transposon Mutagenesis in Gram Negative Bacteria", Biotechnology, Vol. 1, 1983, pp. 784-791.		
CH	SCHRUMPF, B., ET AL., "A Functionally Split Pathway for Lysine Synthesis in <i>Corynebacterium glutamicum</i> ", Journal of Bacteriology, Vol. 173, No. 14, 1991, pp. 4510-4516.		
CI	O'REGAN, M., ET AL., "Cloning and nucleotide sequence of the phosphoenolpyruvate carboxylase-coding gene of <i>Corynebacterium glutamicum</i> ATCC13032", Gene, Vol. 77, 1989, pp. 237-251.		
CJ	GRANT, S. G. N., ET AL., "Differential plasmid rescue from transgenic mouse DNAs into <i>Escherichia coli</i> methylation-restriction mutants", Proc. Natl. Acad. Sci. USA, Vol. 87, 1990, pp. 4645-4649.		
CK	ITAKURA, K., ET AL., "Synthesis and Use of Synthetic Oligonucleotides", Ann. Rev. Biochem., Vol. 53, 1984, pp. 323-356.		
CL	JENSEN, P. R., ET AL., "Artificial Promoters for Metabolic Optimization", Biotechnology and Bioengineering, Vol. 58, 1998, pp. 191-195.		
CM	NARANG, S. A., "Tetrahedron Report Number 140 - DNA Synthesis", Tetrahedron, Vol. 39, No. 1, 1983, pp. 3-22.		
CN	SONNEN, H., ET AL., "Characterization of pGA1, a new plasmid from <i>Corynebacterium glutamicum</i> LP-6", Gene, Vol. 107, 1991, pp. 69-74.		
CO	BERNARD, P., ET AL., "The F Plasmid CcdB Protein Induces Efficient ATP-dependent DNA Cleavage by Gyrase", J. Mol. Biol., Vol. 234, 1993, pp. 534-541.		
CP	SAHM, H., ET AL., "Pathway Analysis and Metabolic Engineering in <i>Corynebacterium glutamicum</i> ", Biol. Chem., Vol. 381, 2000, pp. 899-910.		
CQ	ITAKURA, K., ET AL., "Expression in <i>Escherichia coli</i> of a Chemically Synthesized Gene for the Hormone Somatostatin", Science, Vol. 198, 1977, pp. 1056-1063.		
CR	STADEN, R., "The current status and portability of our sequence handling software", Nucleic Acids Research, Vol. 14, No. 1, 1986, pp. 217-231.		
CS	HOCHULI, E., ET AL., "Genetic Approach to Facilitate Purification of Recombinant Proteins With a Novel Metal Chelate Adsorbent", Biotechnology, Vol. 6, 1988, pp. 1321-1325.		
CT	MAKRIDES, S., "Strategies for Achieving High-Level Expression of Genes in <i>Escherichia coli</i> ", Microbiological Reviews, Vol. 60, No. 3, 1996, pp. 512-538.		
CU	ARKIN, A. P., ET AL., "An algorithm for protein engineering: Simulations of recursive ensemble mutagenesis", Proc. Natl. Acad. Sci., USA, Vol. 89, 1992, pp. 7811-7815.		
CV	EIKMANN, B. J., ET AL., "A family of <i>Corynebacterium glutamicum</i> / <i>Escherichia coli</i> shuttle vectors for cloning, controlled gene expression, and promoter probing", Gene, Vol. 102, 1991, pp. 93-98.		
CW	IKE, Y., ET AL., "Solid phase synthesis of polynucleotides. VIII. Synthesis of mixed oligodeoxyribonucleotides by the phosphotriester solid phase method", Nucleic Acids Research, Vol. 11, No. 2, 1983, pp. 477-488.		
CX	MALUMBRES, M., ET AL., "Codon preference in <i>Corynebacteria</i> ", Gene, Vol. 134, 1993, pp. 15-24.		
CY	KOHARA, Y., ET AL., "The Physical Map of the Whole <i>E. coli</i> Chromosome: Application of a New Strategy for Rapid Analysis and Sorting of a Large Genomic Library", Cell, Vol. 50, 1987, pp. 495-508.		

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CZ	BUTLER, B. A., "Sequence Analysis Using GCG", Methods of Biochemical Analysis, Vol. 39, 1998, pp. 74-97.
CA1	TAUCH, A., ET AL., "The Erythromycin Resistance Gene of the <i>Corynebacterium xerosis</i> R-plasmid pTP10 Also Carrying Chloramphenicol, Kanamycin, and Tetracycline Resistances is Capable of Transposition in <i>Corynebacterium glutamicum</i> ", Plasmid, Vol. 33, 1995, pp. 168-179.
CB1	LIEBL, W., ET AL., "High efficiency electroporation of intact <i>Corynebacterium glutamicum</i> cells", FEMS Microbiology Letters 65, 1989, pp. 299-304.
CC1	LENNOX, E. S., "Transduction of Linked Genetic Characters of the Host by Bacteriophage P1", Virology, Vol. 1, 1955, pp. 190-206.
CD1	LIEBL, W., ET AL., "Transfer of <i>Brevibacterium divaricatum</i> DSM 20297 ¹ , " <i>Brevibacterium flavum</i> " DSM 20411, " <i>Brevibacterium lactofermentum</i> " DSM 20412 and DSM 1412, and <i>Corynebacterium lilium</i> DSM 20137 ¹ to <i>Corynebacterium glutamicum</i> and Their Distinction by rRNA Gene Restriction Patterns", International Journal of Systematic Bacteriology, Vol. 41, No. 2, 1991, pp. 255-260.
CE1	THIERBACH, G., ET AL., "Transformation of spheroplasts and protoplasts of <i>Corynebacterium glutamicum</i> ", Appl. Microbiol. Biotechnol., Vol. 29, 1988, pp. 356-362.
CF1	SERWOLD-DAVIS, T. M., ET AL., "Localization of an origin of replication in <i>Corynebacterium diphtheriae</i> broad host range plasmid pNG2 that also functions in <i>Escherichia coli</i> ", FEMS Microbiology Letters, Vol. 66, 1990, pp. 119-124.
CG1	PATEK, M., ET AL., "Promoters from <i>Corynebacterium glutamicum</i> : cloning, molecular analysis and search for a consensus motif", Microbiology, Vol. 142, 1996, pp. 1297-1309.
CH1	BEN-BASSAT, A., ET AL., "Processing of the Initiation Methionine from Proteins: Properties of the <i>Escherichia coli</i> Methionine Aminopeptidase and Its Gene Structure", Journal of Bacteriology, Vol. 169, No. 2, 1987, pp. 751-757.
CI1	TSUCHIYA, M., ET AL., "Genetic Control Systems of <i>Escherichia coli</i> Can Confer Inducible Expression of Cloned Genes in Coryneform Bacteria", Biotechnology, Vol. 6, 1988, pp. 428-430.
CJ1	MARCK, C., "DNA Strider: a 'C' program for the fast analysis of DNA and protein sequences on the Apple Macintosh family of computers", Nucleic Acids Research, Vol. 16, No. 5, 1988, pp. 1829-1836.
CK1	GUERRERO, C., ET AL., "Directed mutagenesis of a regulatory palindromic sequence upstream from the <i>Brevibacterium lactofermentum</i> tryptophan operon", Gene, Vol. 138, 1994, pp. 35-41.
CL1	WAHL, G. M., ET AL., "Cosmid vectors for rapid genomic walking, restriction mapping, and gene transfer", Proc. Natl. Acad. Sci. USA, Vol. 84, 1987, pp. 2160-2164.
CM1	EIKMANN, B. J., ET AL., "Molecular Aspects of lysine, threonine, and isoleucine biosynthesis in <i>Corynebacterium glutamicum</i> ", Atonie van Leeuwenhoek, Vol. 64, 1993, pp. 145-163.
CN1	REINSCHIED, D. J., ET AL., "Stable Expression of <i>hom-1-thrB</i> in <i>Corynebacterium glutamicum</i> and Its Effect on the Carbon Flux to Threonine and Related Amino Acids", Applied and Environmental Microbiology, Vol. 60, No. 1, 1994, pp. 126-132.
CO1	MOTOYAMA, H., ET AL., "Overproduction of L-Lysine from Methanol by <i>Methylobacillus glycogenes</i> Derivatives Carrying a Plasmid with a Mutated <i>dapA</i> Gene", Applied and Environmental Microbiology, Vol. 67, No. 7, 2001, pp. 3064-3070.
CP1	SAHIN-TOTH, M., ET AL., "Cysteine scanning mutagenesis of the N-terminal 32 amino acid residues in the lactose permease of <i>Escherichia coli</i> ", Protein Sciences, Vol. 3, 1994, pp. 240-247.
CQ1	SCHÄFER, A., ET AL., "Small mobilizable multi-purpose cloning vectors derived from the <i>Escherichia coli</i> plasmids pK18 and pK19: selection of defined deletions in the chromosome of <i>Corynebacterium glutamicum</i> ", Gene, Vol. 145, 1994, pp. 69-73.

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	CR1	SCHWARZER, A., ET AL., "Manipulation of <i>Corynebacterium glutamicum</i> by Gene Disruption and Replacement", Biotechnology, Vol. 9, 1991, pp. 84-87.	
	CS1	DELAGRAVE, S., ET AL., "Recursive ensemble mutagenesis", Protein Engineering, Vol. 6, No. 3, 1993, pp. 327-331.	
	CT1	PEARSON, W. R., ET AL., "Improved tools for biological sequence comparison", Proc. Natl. Acad. Sci. USA, Vol. 85, 1988, pp. 2444-2448.	
	CU1	EIKMANN, B. J., ET AL., "Nucleotide sequence, expression and transcriptional analysis of the <i>Corynebacterium glutamicum</i> <i>gltA</i> gene encoding citrate synthase", Microbiology, Vol. 140, 1994, pp. 1817-1828.	
	CV1	TAUCH, A., ET AL., " <i>Corynebacterium glutamicum</i> DNA is subjected to methylation-restriction in <i>Escherichia coli</i> ", FEMS Microbiology Letters, Vol. 123, 1994, pp. 343-348.	
	CW1	LABARRE, J., ET AL., "Gene Replacement, Integration, and Amplification at the <i>gdhA</i> Locus of <i>Corynebacterium glutamicum</i> ", Journal of Bacteriology, Vol. 175, No. 4, 1993, pp. 1001-1007.	
	CX1	MARTIN, J.F., ET AL., "Cloning Systems in Amino Acid-Producing <i>Corynebacteria</i> ", Biotechnology, Vol. 5, 1987, pp. 137-146.	
	CY1	EIKMANN, B. J., ET AL., "Identification, Sequence Analysis, and Expression of a <i>Corynebacterium glutamicum</i> Gene Cluster Encoding the Three Glycolytic Enzymes Glyceraldehyde-3-Phosphate Dehydrogenase, 3-Phosphoglycerate Kinase, and Triosephosphate Isomerase", Journal of Bacteriology, Vol. 174, No. 19, 1992, pp. 6076-6086.	
	CZ1	SCHMIDT, S., ET AL., "Near infrared spectroscopy in fermentation and quality control for amino acid production", Bioprocess Engineering, Vol. 19, 1998, pp. 67-70.	
	CA2	SPRATT, B., ET AL., "Kanamycin-resistant vectors that are analogues of plasmids pUC8, pUC9, pEMBL8 and pEMBL9", Gene, Vol. 41, 1986, pp. 337-342.	
	CB2	KASE, H., ET AL., "L-Methionine Production by Methionine Analog-resistant Mutants of <i>Corynebacterium glutamicum</i> ", Agr. Biol. Chem., Vol. 39, No. 1, 1975, pp. 153-160.	
	CC2	HWANG, B.-J., ET AL., " <i>Corynebacterium glutamicum</i> Utilizes both Transsulfuration and Direct Sulfhydrylation Pathways for Methionine Biosynthesis", Journal of Bacteriology, Vol. 184, No. 5, 2002, pp. 1277-1286.	
	CD2	PARK, S.-D., ET AL., "Isolation and Analysis of <i>metA</i> , a Methionine Biosynthetic Gene Encoding Homoserine Acetyltransferase in <i>Corynebacterium glutamicum</i> ", Mol. Cells, Vol. 8, No. 3, 1998, pp. 286-294.	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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